Patent claims

1. A cast iron alloy for a cast iron product characterized by high thermal stability, the alloy comprising, as nonferrous constituents, positive additions of C, Si, Mo, Al, wherein C is present in an amount of less than 2.9% by weight.

2. The cast iron alloy as claimed in claim 1, wherein the C content is 2.5 to 2.8% by weight.

3. The cast iron alloy as claimed in claim 1, wherein the Si content is 4.7 to 5.2% by weight.

4. The cast iron alloy as claimed in claim 1, wherein the Mo content is 0.5 to 0.9% by weight.

5. The cast iron alloy as claimed in claim 1, wherein the Al content is 0.5 to 0.9% by weight.

6. The cast iron alloy as claimed in claim 1, wherein the alloy further comprises Ni, wherein the Ni content is 0.1 to 1.0% by weight.

7. The cast iron alloy as claimed in claim 1, wherein the alloy further comprises Zr, wherein the Zr content is 0.1 to 0.4% by weight.

8. The cast iron alloy as claimed in claim 1, wherein the graphite fraction is spheroidal graphite.

9. The cast iron alloy as claimed in claim 1, wherein the graphite fraction is vermicular graphite.

10. A cast iron alloy comprising between 2.5 to 2.8 wt.% C, 4.7 to 5.2 wt.% Si, 0.1 to 1.0 wt.% Ni, 0.5 to 0.9 wt.% Mo, 0.5 to 0.9 wt.% Al, 0.1 to 0.4

wt.% Zr, Mg and S each up to .05 wt.% max, and balance essentially Fe.

11. The cast iron alloy as claimed in claim 1, wherein the cast iron product comes into contact with exhaust gas from an internal combustion engine.

12. The cast iron alloy as claimed in claim 1, wherein the cast iron product is an exhaust manifold for receiving exhaust gases from an internal combustion engine.

13. A process for producing the cast iron alloy as claimed in claim 7, wherein the Al and Zr are added as an Al-Zr prealloy immediately before the alloy melt is cast.

14. A process for producing the cast iron alloy as set forth in claim 13, wherein the temperature of the alloy melt is over 1460°C immediately prior to casting.

15. In combination, an internal combustion engine and a cast iron product, the cast into product being contacted with exhaust gases from the internal combustion engine, the cast iron product comprises a cast iron alloy comprising, as nonferrous constituents, positive additions of C, Si, Mo, Al, wherein C is present in an amount of less than 2.9% by weight.